REMARKS

Applicants thank the Examiner for total consideration given the present application. Claims 1-25 were pending prior to the Office Action. Claims 1, 2, 11, 13-15, 20, 24, and 25 have been amended through this Reply. Therefore, claims 1-25 are pending. Claims 1, 11, 15, 20, 24, and 25 are independent. Favorable reconsideration and allowance of the present application are respectfully requested in view of the following remarks.

OBJECTION TO THE SPECIFICATION

The specification is objected to for minor informalities. *See Office Action, item 1.* The specification has been amended to address this objection. Applicant respectfully requests that the objection to the specification be withdrawn.

35 U.S.C. § 112, 2ND PARAGRAPH REJECTION

Claims 2, 13-14, and 18 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

Claim 2 has been amended to reflect dependency on claim 1. Claims 13 and 14 have been amended to reflect dependency on claim 11.

Applicant disagrees with the Examiner's assertion that Claim 18 is indefiniteClaim 18 depends on claim 17 which includes all limitations of claim 15 since claim 17 depends on claim 15.

Applicant respectfully requests that the Section 112, second paragraph rejection of claims 2, 13-14, and 18 be withdrawn.

35 U.S.C. § 102 REJECTION – ALDERSON ET AL.

Claims 1-2, 4-5, 7-10, 15-16, 19-21, and 24-25 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Alderson et al. (US 2002/0159101 A1) (hereinafter "Alderson"). Applicant respectfully traverses this rejection.

For a Section 102 rejection to be proper, the cited reference must teach or suggest each and every claimed element. *See M.P.E.P. 2131; M.P.E.P. 706.02.* Thus, if the cited reference

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fails to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

In this instance, Alderson fails to teach or suggest each and every claimed element. For example, independent claim 1 recites, *inter alia*, "A system for reducing noise in a detection sensor detection, comprising: ... *the estimated fixed pattern noise is a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame.*" *Emphasis added.*

Alderson teaches a fixed pattern noise (FPN) correction method where the method includes a non-uniformity correction (NUC) to remove FPN due to variation in pixel gain and pixel offset. Alderson further teaches that method includes correction to imagery data by modifying gain and offset coefficients using at least one frame of image data collected by an image detector where image detector acquires out-of-focus multiple-temperature imagery.

However, Alderson fails to teach or suggest that the method includes estimating FPN based on a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame. The temporal noise within a frame is an empirical measurements a variance of a stationary discrete time stochastic process. The residual noise represents a background temperature noise varied of time. The difference between the standard deviation of the residual noise and the standard deviation of the temporal noise within a frame can accurately estimate drift in FPN at different times.

Claims 15, 20, 24, and 25 are method and computer program product claims comprising similar features in claim 1. Therefore, for at least these reasons, independent claims 1, 15, 20, 24, and 25 are distinguishable from Alderson. Claims 2, 4-5, 7-10, 16, 19, and 21 depend from claim Alderson, directly or independently. Therefore, for at least the reasons stated with respect to claims 1, 15, 20, 24, and 25, claims 2, 4-5, 7-10, 16, 19, and 21 are also distinguishable from Alderson.

Accordingly, Applicant respectfully requests that the rejection of claims 1-2, 4-5, 7-10, 15-16, 19-21, and 24-25, based on Alderson, be withdrawn.

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35 U.S.C. § 103 REJECTION – ALDERSON IN VIEW OF HARTON ET AL.

Claims 3, 11-14, and 17-18 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Alderson in view of Harton et al. (US 2003/0107666 A1) (hereinafter "Harton"). Applicant respectfully traverses.

For a Section 103 rejection to be proper, a *prima facie* case of obviousness must be established. *See M.P.E.P. 2142*. One requirement to establish *prima facie case* of obviousness is that the prior art references, when combined, must teach or suggest all claim limitations. *See M.P.E.P. 2142; M.P.E.P. 706.02(j)*. Thus, if the cited references fail to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

Claim 3

In this instance, independent claim 1 recites, *inter alia*, "A system for reducing noise in a detection sensor detection, comprising: ... *the estimated fixed pattern noise is a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame.*" *Emphasis added.*

As presented above, Alderson fails to teach or suggest that *the estimated fixed pattern noise is a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame.* In addition, Harton fails to teach or suggest the above limitation to supplement Alderson's missing feature.

As set forth on page 6 of the Office Action, the Examiner relies on Harton as allegedly pertaining to incremental features of the above listed dependent claims. The Examiner's reliance on Tsuruoka, however, fails to make up for the deficiencies of Alderson discussed above with respect to Claim 1. Therefore, the asserted combination of Alderson and Harton (assuming these references may be combined, which applicant does not admit) fails to establish prima facie obviousness of any pending claims.

Claims 11-14 and 17-18

In this instance independent claim 11 recites, *inter alia*, "A sensor system for detecting candidate targets from received energy at an array of detectors within the sensor system, comprising: ... *wherein the non-uniformity correction device estimates fixed pattern noise based*

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on a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame." Emphasis added.

Alderson teaches a fixed pattern noise (FPN) correction method where the method includes a non-uniformity correction (NUC) to remove FPN due to variation in pixel gain and pixel offset. Alderson further teaches that method includes correction to imagery data by modifying gain and offset coefficients using at least one frame of image data collected by an image detector where image detector acquires out-of-focus multiple-temperature imagery.

However, Alderson fails to teach or suggest that the method includes estimating FPN based on a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame. The temporal noise within a frame is an empirical measurements a variance of a stationary discrete time stochastic process. The residual noise represents a background temperature noise varied of time. The difference between the standard deviation of the residual noise and the standard deviation of the temporal noise within a frame can accurately estimate drift in FPN at different times.

Harton teaches a diffusion capacitor to control integration time for a solid state image sensor such as a charged-coupled device (CCD). However, Harton does not teach or suggest a system to estimate a *fixed pattern noise based on a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame.*

Neither Alderson nor Harton alone or in combination thereof teach or suggest all claimed features in claim 11.

Therefore, for at least these reasons, independent claim 11 is distinguishable from Alderson and Harton. Claims 13-14 and 17-18 depend from claim 11, directly or independently. Therefore, for at least the reasons stated with respect to claim 11, claims 13-14 and 17-18 are also distinguishable from Alderson and Harton.

Accordingly, Applicant respectfully requests that the rejection of claims 3, 11, 13-14, and 17-18, based on Alderson and Harton, be withdrawn.

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35 U.S.C. § 103 REJECTION – ALDERSON IN VIEW OF TSURUOKA

Claims 6 and 22 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Alderson in view of Tsuruoka (US 2004/0027469 A1) (hereinafter "Tsuruoka"). Applicant respectfully traverses.

As presented above, Alderson fails to teach or suggest that *the estimated fixed pattern noise is a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame.* In addition, Tsuruoka fails to teach or suggest the above limitation to supplement Alderson's missing feature.

As set forth on page 8 of the Office Action, the Examiner relies on Tsuruoka as allegedly pertaining to incremental features of the above listed dependent claims. The Examiner's reliance on Tsuruoka, however, fails to make up for the deficiencies of Alderson discussed above with respect to Claims 1 and 20. Therefore, the asserted combination of Alderson and Tsuruoka (assuming these references may be combined, which applicant does not admit) fails to establish prima facie obviousness of any pending claims.

Therefore, applicant respectfully requests that the rejection of claims 6 and 23, based on Alderson and Tsuruoka, be withdrawn.

35 U.S.C. § 103 REJECTION – ALDERSON IN VIEW OF KUWAHARA

Claim 23 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Alderson in view of Kuwahara (US 5,317,420) (hereinafter "Kuwahara"). Applicant respectfully traverses.

As presented above, Alderson fails to teach or suggest that *the estimated fixed pattern noise is a difference between a standard deviation of a residual noise and a standard deviation of a temporal noise within a frame.* In addition, Kuwahara fails to teach or suggest the above limitation to supplement Alderson's missing feature.

As set forth on page 9 of the Office Action, the Examiner relies on Kuwahara as allegedly pertaining to incremental features of the above listed dependent claims. The Examiner's reliance on Kuwahara, however, fails to make up for the deficiencies of Alderson discussed above with respect to Claim 20. Therefore, the asserted combination of Alderson and

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Kuwahara (assuming these references may be combined, which applicant does not admit) fails to establish prima facie obviousness of any pending claims.

Therefore, applicant respectfully requests that the rejection of claim 23, based on Alderson and Kuwahara, be withdrawn.

Conclusion

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael R. Cammarata Reg. No. 39,491 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Dated: September 14, 2007

Respectfully submitted,

By

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